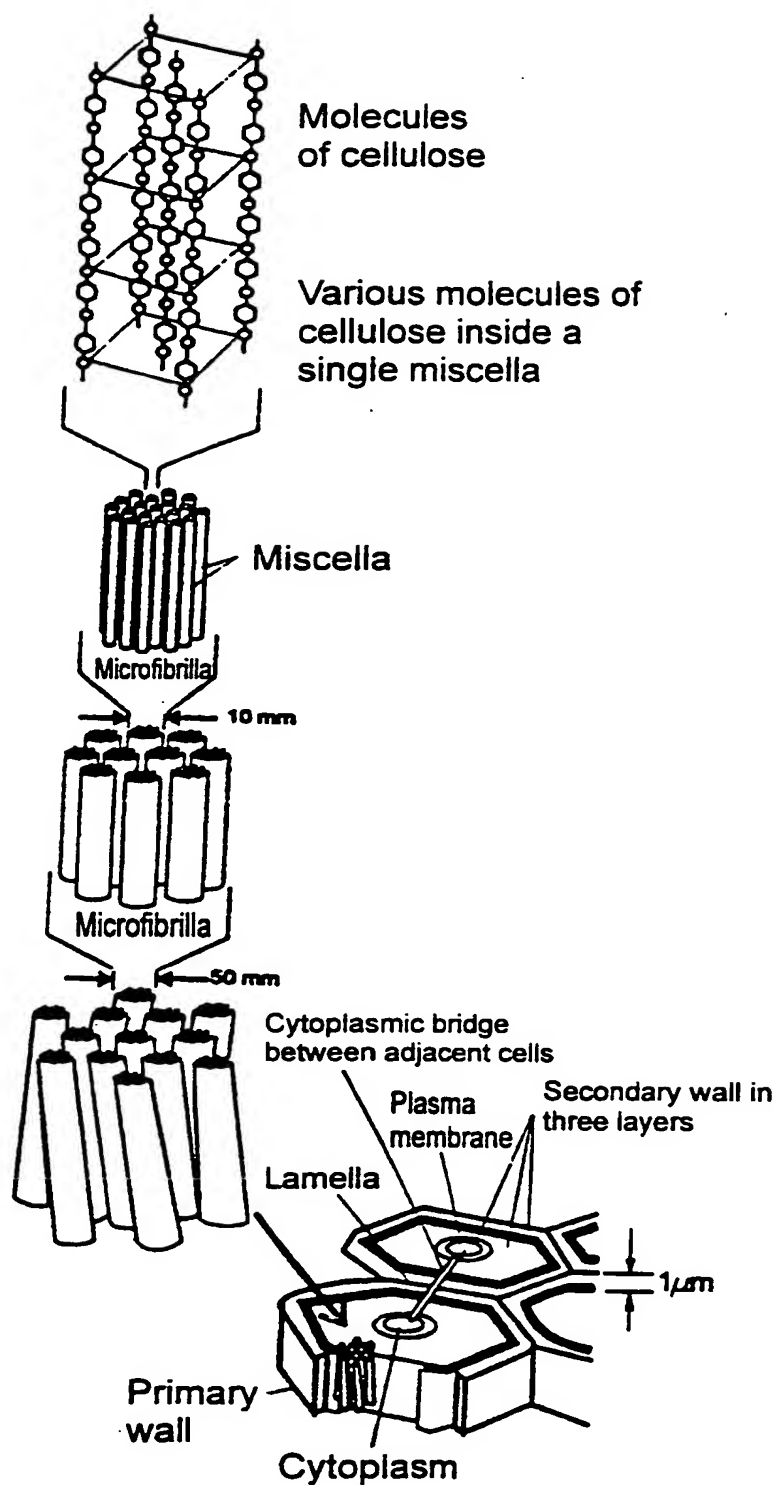
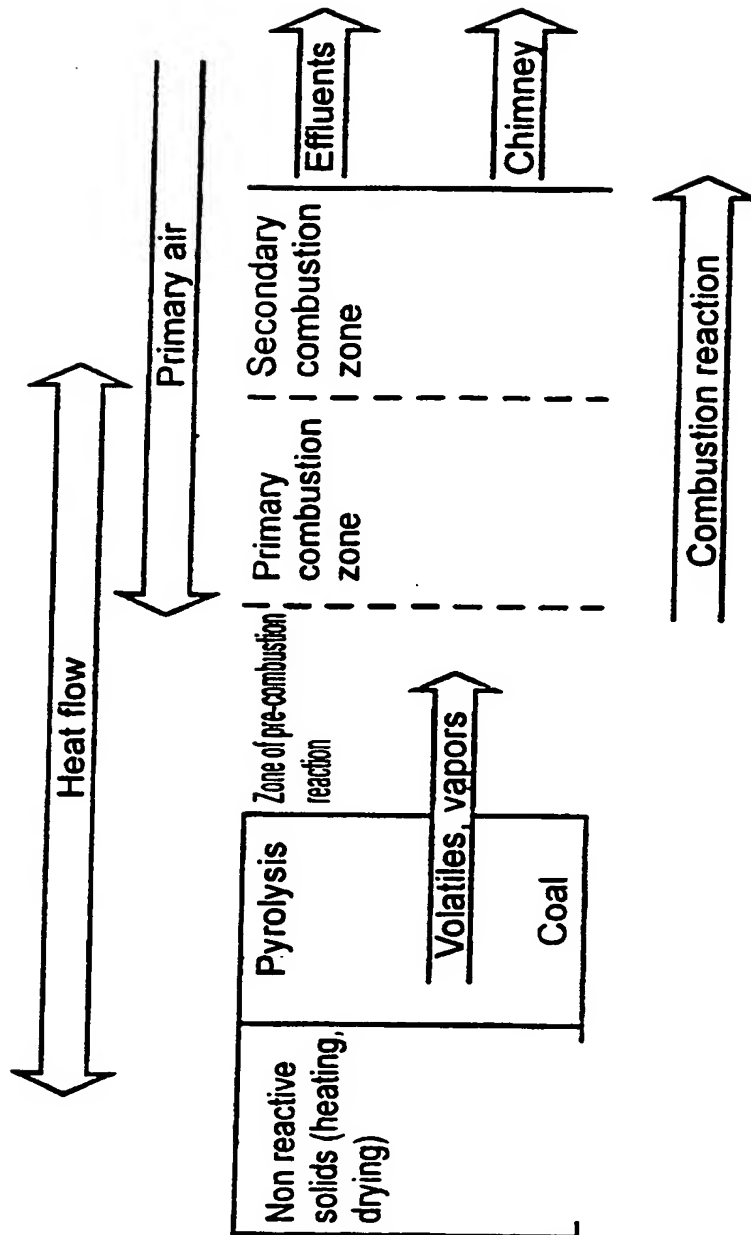


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**FIG 1** Cellular structure of biomass

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Conceptual model of the combustion of solid fuels.
Complexity of the combustion of wood

FIG 2

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Fig 3a

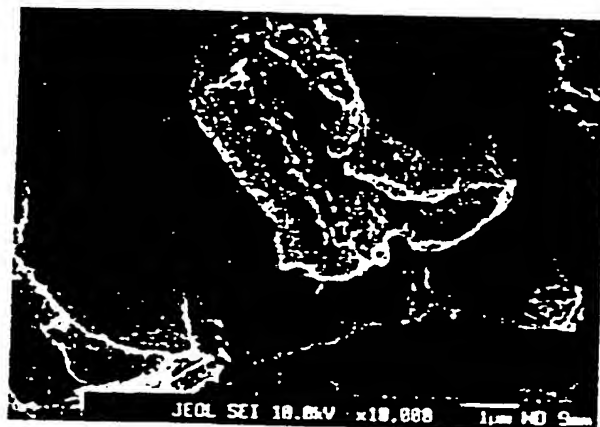


Fig 3b

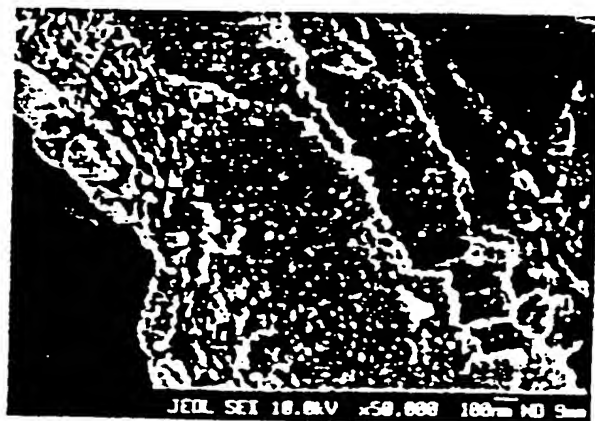


Fig 3c

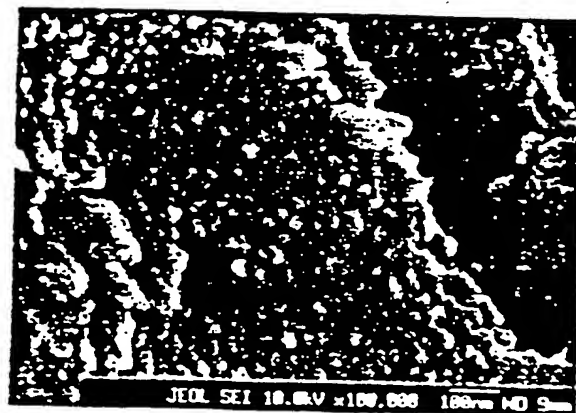


Fig 3d

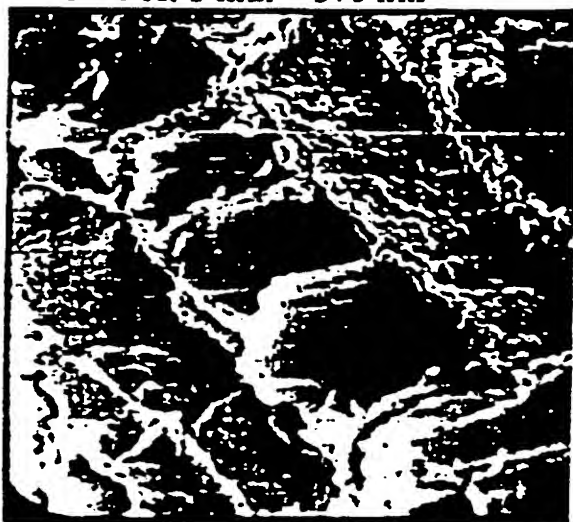
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1800 X, 1 mm = 370 nm



5000 X, 1 mm = 133 nm



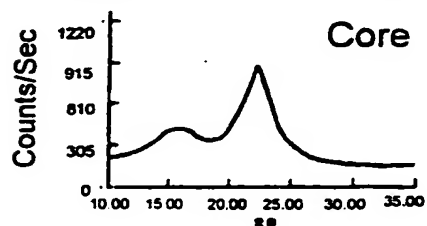
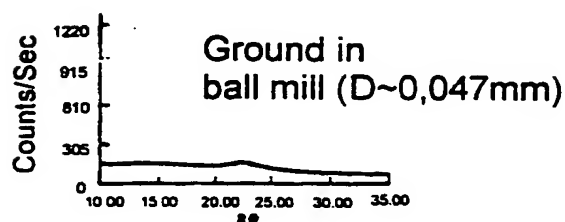
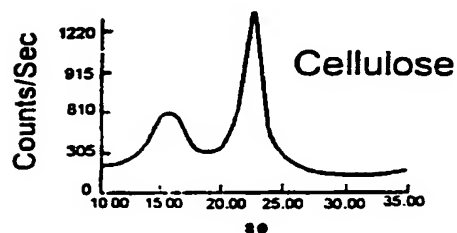
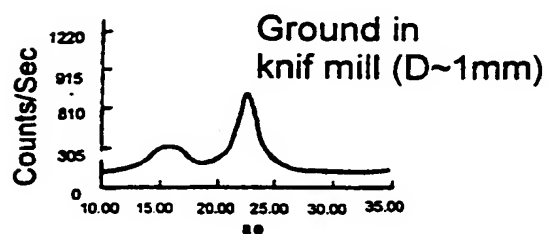
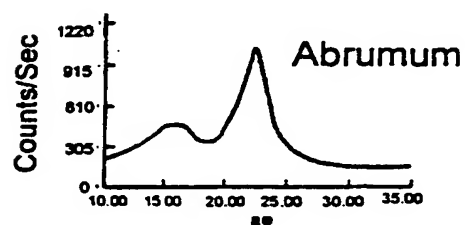
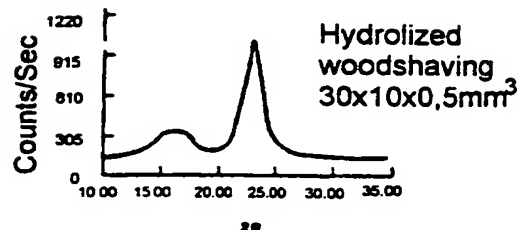
2000 X, 1 mm = 333 nm



20.000 X, 1 mm = 33 nm

Fig 3e: Microstructure of the cellulignin with globalized lignin

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Diffraction of X-ray of wood
and eucalyptus celluloseDiffraction of X-ray
for cellulignin**FIG 4** X-Ray diffratogram for wood, cellulose and cellulignin

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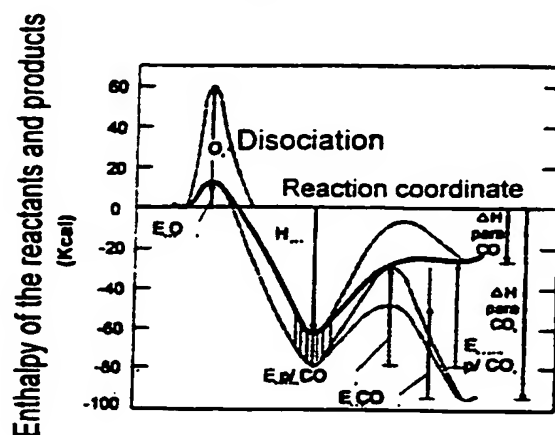


FIG 5 Variation of the Enthalpy of the Reactants and products the coordinate of the Carbon-Oxygen reaction.

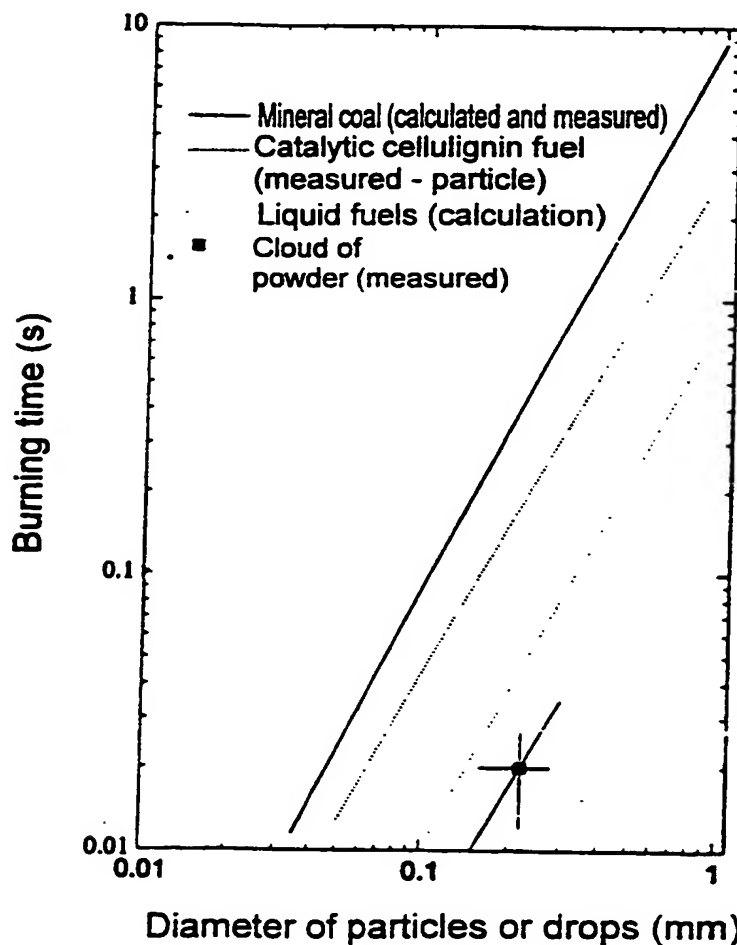


FIG 6 Burning time versus Diameter of particle for mineral coal, catalytic cellulignin fuel, particle and in powder cloud and liquid fuels

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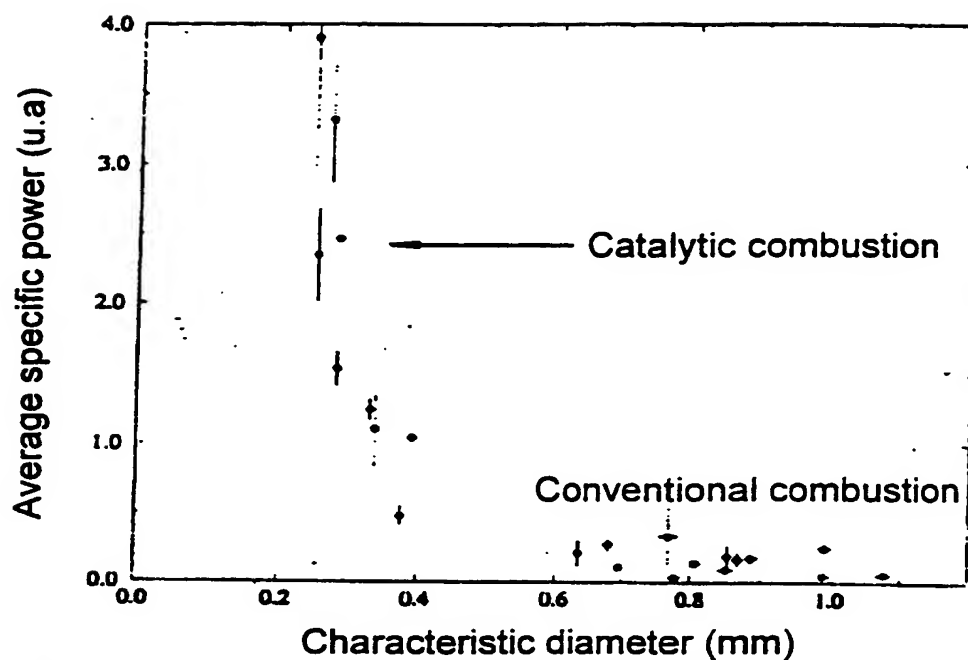


FIG 7a Average specific power irradiated in the combustion of a Catalytic Cellulignin particle (linear scale)

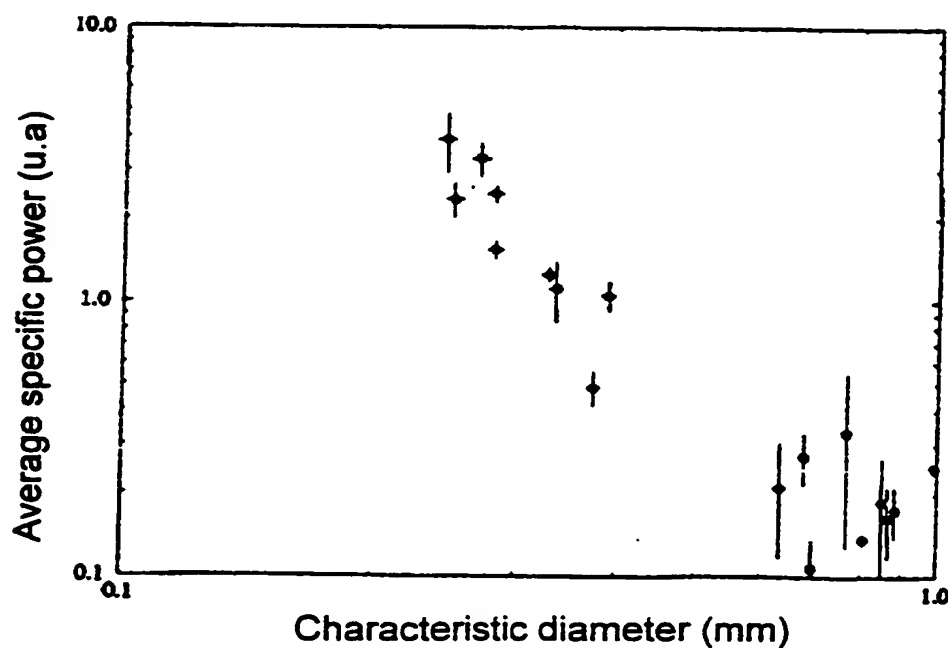
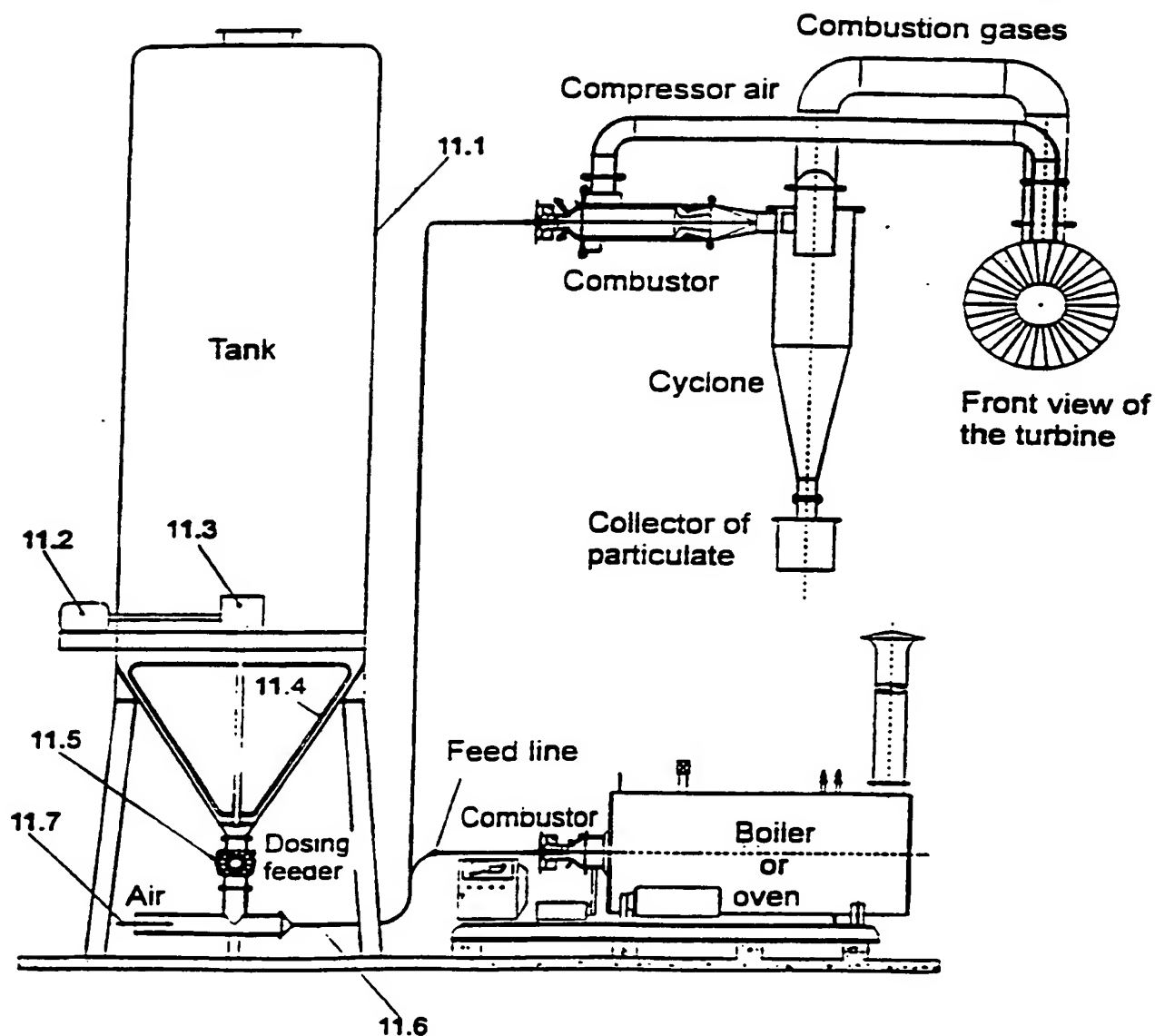


FIG 7b Average specific power irradiated in the combustion of a catalytic cellulignin particle (logarithmic scale)

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**FIG 8** Catalytic Cellulignin feeding system for Boilers/Ovens or gas turbines

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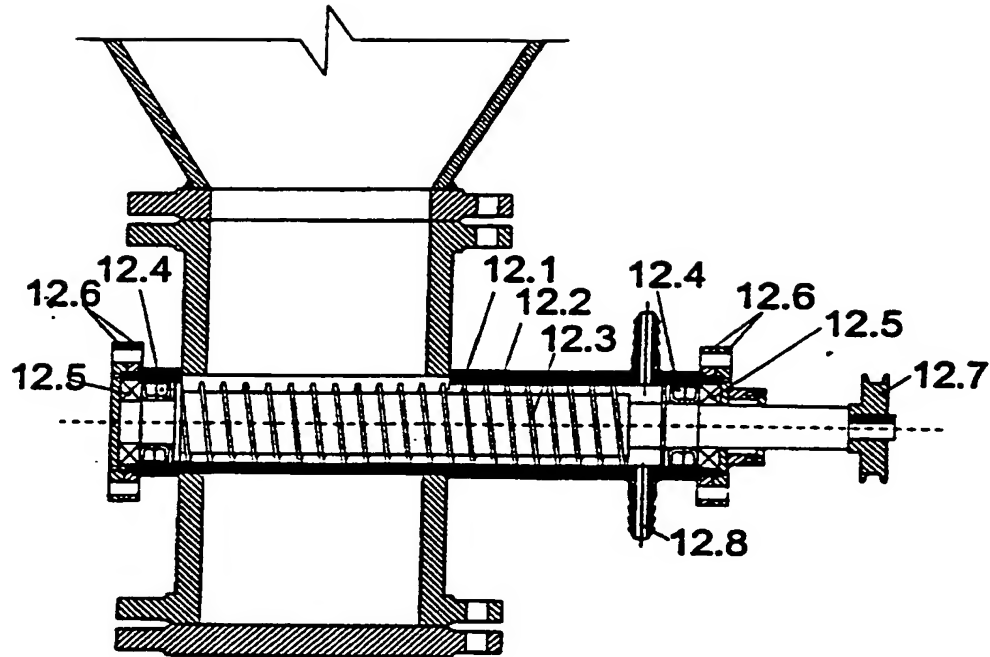


FIG 9 Helical feeder

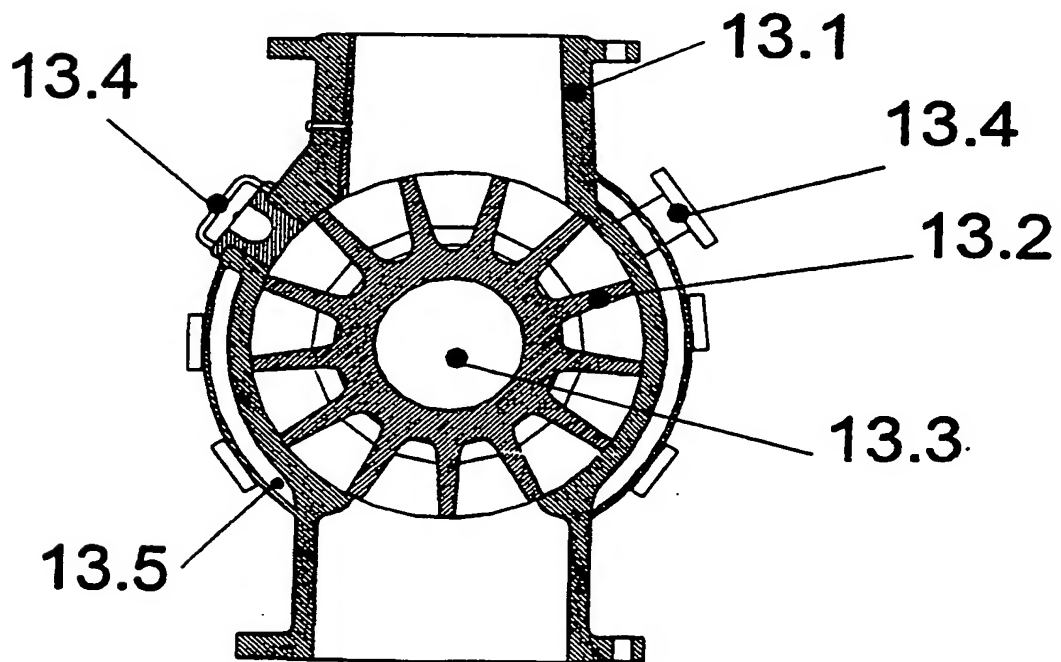


FIG 10 Rotary valve

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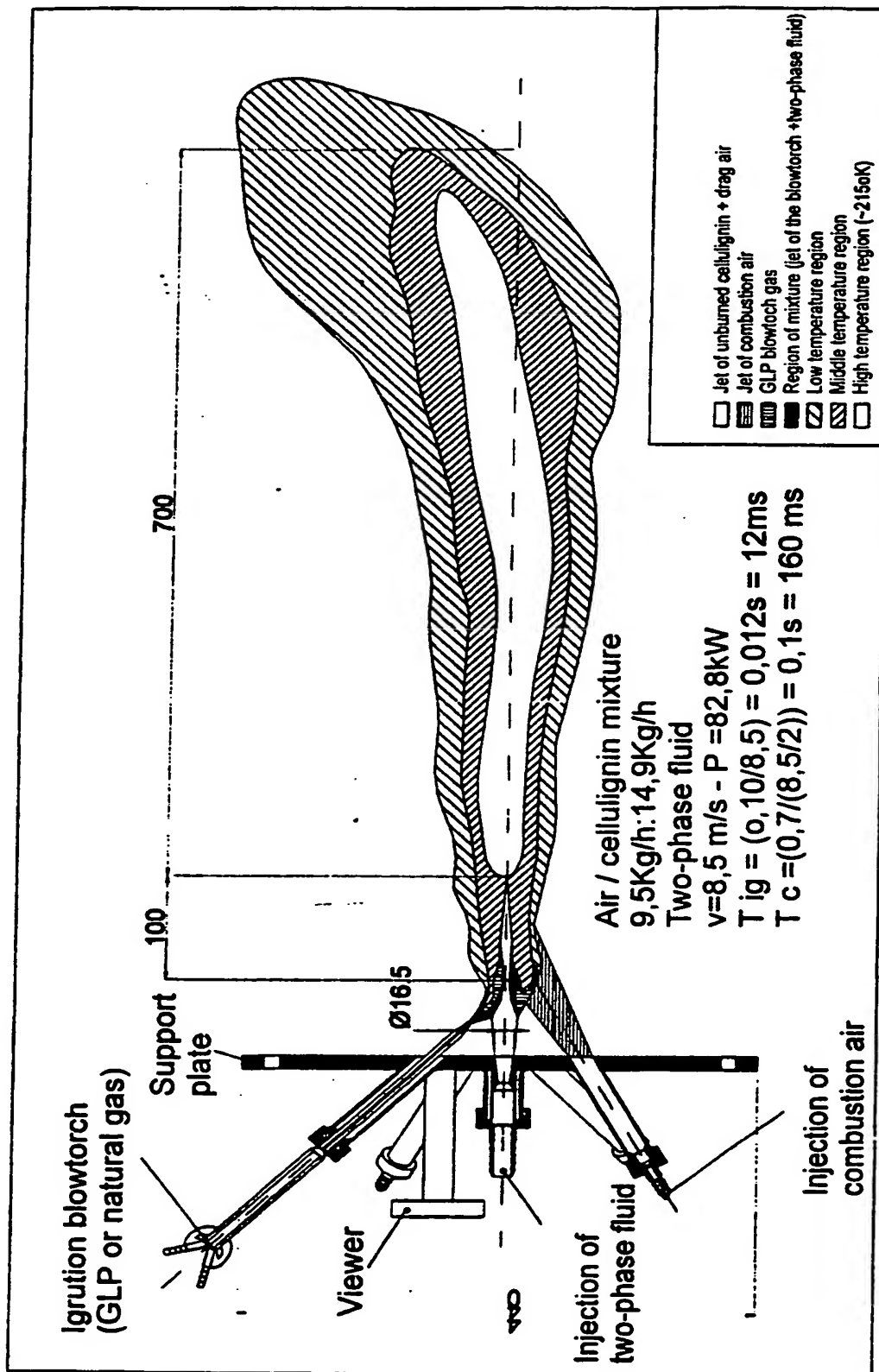


FIG 11 Axial combustor with flame of cellulignin in an open environment

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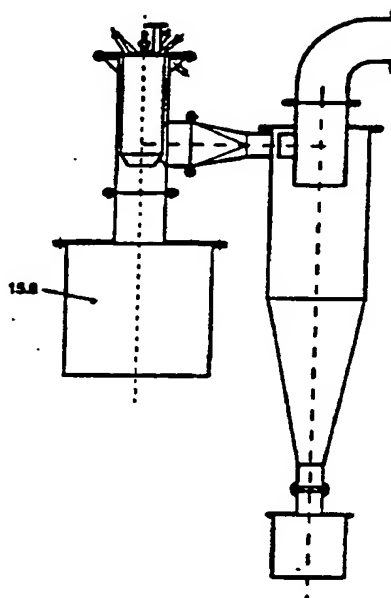


FIG 12a Combustor for cellulignin, cycloning and collection of particulates (horizontal)

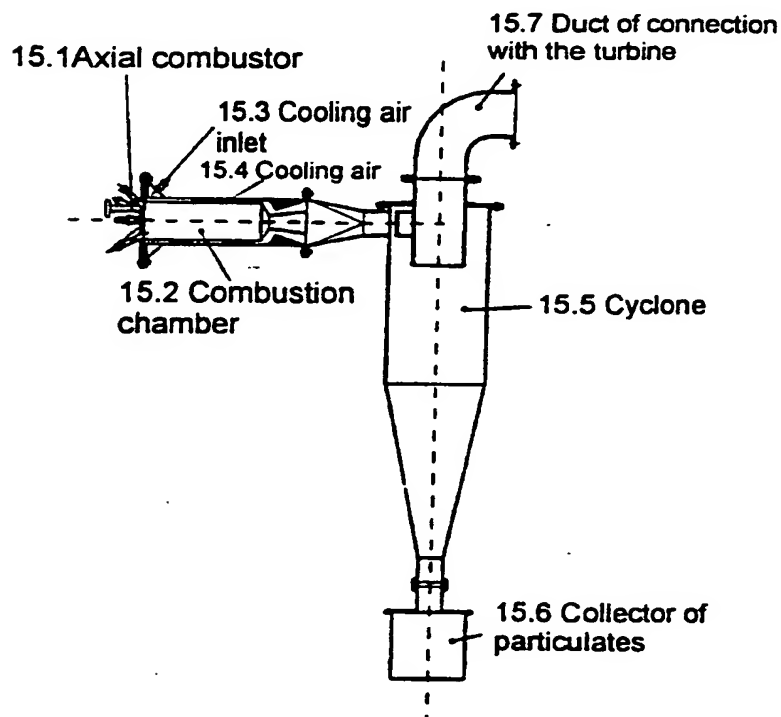


FIG 12b Combustor for cellulignin, cycloning and collection of particulates (vertical)